Crandall (C. R.)

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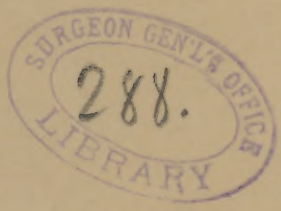

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DIAGNOSIS OF

CONSUMPTION DURING THE FIRST STAGE.*

By CHARLES R. CRANDALL, M. D.,
PORTLAND, MAINE.

I MAKE no apology for bringing to your consideration to-night the subject of chronic tubercular consumption or phthisis, the oldest and most common disease with which we have to deal. I feel justified in so doing, because it prevails in New England to an alarming extent, and for the reason that we must recognize the disease early and act promptly if our efforts are to be of any avail. Hence I have come to look upon the early diagnosis of consumption as a matter of supreme importance, and feel it to be one well worthy of serious consideration upon an occasion of this kind.

In making an early diagnosis of this disease at a time when, bear in mind, physical signs are nearly if not entirely negative, the physician is obliged to base his judgment largely upon probabilities. Hence he must needs take into consideration such conditions as are known to predispose a person to consumption, and weigh the tendencies and evidences which are revealed in the history and appearance of the patient. As all of you are aware, family predisposition

* Read before the Portland Medical Club, February 4, 1886.

is chief among the conditions which render a person liable to this dread disease. This principle is so well established and so generally accepted that it needs no argument. I will, however, mention the following general rules which are well worthy of remembrance. In the first place, the offspring of consumptive parents are more likely to have the disease than others. Statistics show that twenty-five to thirty per cent. of all persons having consumption are born of parents one or both of whom died of the disease. In instances where both parents have thus died, the more likely is it to develop in their children, and the more rapid will probably be its course when once commenced.

Again, the hereditary tendency of a child as regards consumption is most likely to be after the parent it resembles in complexion and lineaments. But there are some authorities, on the contrary, who maintain that the disease is more inheritable from mothers than from fathers. In cases where there is a family predisposition to consumption it requires, as a rule, but a very slight exciting cause, like a bronchitis or pleurisy, to develop the disease.

Such are the accepted general laws regarding the heredity of consumption, and therefore, when we see a young person whose parents were consumptive, scrofulous, or weakly constituted, experiencing a decline in health, we must consider well the probable effect of his or her constitutional inheritance.

A second consideration which should always be given to a suspected case of consumption is the influence that has come to the patient from the nature of his or her occupation. It has always been observed that those of weakly constitution or of scrofulous temperament, who lead a sedentary life, are especially prone to the disease. It is believed that the deprivation of pure and fresh air, exclusion from the vitalizing influence of unobstructed sunlight, and the

debilitating tendencies of indoor life, favor the development of the tuberculous tendency. Confirmatory of such theory, it has been repeatedly noted that consumption is most prevalent among those who work within doors, such as teachers, clerks, printers, hat-makers, tailors, cigar-makers, shop-girls, and factory employees of nearly every description. These facts are now well established all over the world, and hence the predisposing tendency of occupation is always worthy of consideration when an early diagnosis of consumption is being formed.

As a third important consideration aiding in diagnosticating incipient consumption, I will mention anti-hygienic conditions. Indeed, it is always imperative to ask ourselves whether or not the surroundings and habits of life which have environed our patient have been of a character to debilitate his or her constitution. We are justified in believing that they have, if we find that he or she has lived or worked in a cool, moist, poorly lighted atmosphere, has been exposed to the dangers of a badly ventilated and damp dwelling, or has lived mostly upon a diet which was deficient in nutritious elements. What relation a cool and damp house bears to tuberculosis no one can say; but what shall be our inference when we recall that such an atmosphere favors repeated "colds" and greater or less congestion of the various surfaces and structures within the chest? Whether or not such an atmosphere is especially favorable to the development of micro-organisms, which are now believed to cause tubercular disease, or whether it tends to cause those inflammatory or cascous degenerative changes which develop catarrhal phthisis, is a question to be settled by future observation.

As regards the influence of deficient diet, it has long been observed that the most of the cases of consumption are developed among those who are justly styled "poor

feeders." Indeed, that class is most prone to the disease whose members, as a rule, are non-meat and fat eaters, and who live largely upon starchy foods in the form of bread, biscuits, pastry, beans, and potatoes. So certainly does a poor diet lead to poor health that the rule should always enter into the discussion of a case of suspected phthisis. There is no doubt that the tendency of such and similar anti-hygienic surroundings and defective diet is toward inducing feebleness of constitution, and hence predisposing to consumption.

From these brief references to influences which merit consideration because they impair the blood, enfeeble the constitution, and tend powerfully to develop disease, let us pass on to note the meaning of the peculiar appearance of the person who has made some advance in the first stage of consumption. As long ago as in the days of Aretæus the physiognomic appearance of the consumptive patient received great consideration, and that noted observer gave deserved attention to the details usually expressed in such cases. He wrote with great accuracy regarding the significance of the pinched face and bright, sunken eyes, the long, bent, and extended neck, the clubbed finger-nails, the loss of tension and rotundity of flesh, the shrinkage of the mammæ, the flat, narrow chest, the prominence of the ribs, shoulder-blades, and joints, all of which, in his estimation, denoted the "habitus depravatus" of chronic wasting pulmonary disease. Another sign usually present during the first stage of consumption is the depression of the supra- and infra-clavicular fossæ, a condition often caused by induration and shrinking of the apex of the lungs, and due primarily to infiltration and malnutrition. True, many have a flat and poorly developed chest and depression of the supra- and infra-clavicular fossæ without having consumption, but where there are predisposing causes and other

probabilities pointing to the disease, this condition may be accepted as corroborating evidence. Another sign of special value discoverable on inspection is impairment of normal chest expansion and respiratory movement. As a rule, during even the first stage of the disease, the respiratory movement is feeble and increased in frequency from five to ten respirations a minute. This important change is due to obstruction of the bronchial tubes from mucus and pressure, and also to a decrease of area through which the blood is oxygenated. Another important alteration seen in the general contour of the patient is emaciation of the entire body. Emaciation is an early and very constant symptom of consumption, and is highly expressive of the consuming process which has insidiously fastened upon the unfortunate victim. While these physiognomic indications of the face and body are not invariable, they are sufficiently so to deserve attention in all earnest endeavors to form an early diagnosis.

Among the first pulmonary symptoms preceding or following the predispositions and physiognomy I have described, and which should tend to lead to a suspicion or diagnosis of consumption, are huskiness or hoarseness of voice and a cough. A history of "more or less hoarseness," "raising phlegm from the throat," or of "a dry, hacking cough" which has lasted for several weeks or months, accompanied, perhaps, by a decline in appetite, flesh, and strength, may be said to be always strong presumptive evidence of the first stage of tubercular disease. As a rule, the onset of such "coughs" and "throat troubles" is insidious, unless they follow right along after a bronchitis or a pneumonia, and are unheeded until they become decidedly more troublesome and attended with expectoration. Too often, indeed, they are said to be due to "irritation of the throat," or are "nothing but a bronchitis," and the

patient is deluded into the belief that his trouble is insignificant, and that a cure awaits him. It should be borne in mind that, in the majority of instances, these "dry, hacking coughs" are the first symptoms of a bronchial irritation caused by incipient tuberculosis, and therefore well worthy of early consideration.

In regard to descriptions given by the patient which should make the physician suspect that there has been an insidious development of consumption, I beg permission to lay great stress upon the history of inflammations. It is safe to say that the advent of the disease is marked in nearly every instance by some acute inflammatory process—like bronchitis, pneumonia, pleuro-pneumonia, or pleurisy. Indeed, Niemeyer and some others regard bronchitis as the primary and essential developing cause in the majority of cases of consumption, but more especially of that form known as catarrhal phthisis. In instances where consumption thus follows a bronchitis or lobular pneumonia, it is believed that such result ensues largely because the patient was previously predisposed thereto, and, so to speak, was in a ripe condition for caseous degeneration and tubercular phthisis to follow. Again, it is equally certain that pleurisies of varying severity are, in many instances, the forerunners, as it were, of consumption. While it is true that most cases of pleurisy end in absolute recovery, it is equally true that the adhesions and thickening which form may sadly cripple the lung and become "the seat of tubercular development" in those predisposed to consumption. Consequently, pleuritic pains, so often complained of by those whom we suspect as tending toward consumption, are of decided importance. While in no sense pathognomonic, they are nevertheless present in many cases of the disease, and deserve most careful estimation. They are described as being sharp, "stitch-like," of varying severity, and are

usually located just above or below the nipple anteriorly, or beneath or below the scapula posteriorly. It seems to me that they have been present in most every case of consumption I ever saw in its first stage, and I have come to look upon them, when associated with other symptoms or with a family predisposition, as being of great diagnostic significance.

Moreover, so-called "hæmorrhages from the lungs," but more properly bronchial hæmorrhage, so often complained of by patients in poor health, are in many instances indicative of tubercular disease, and may be about the first symptom which is manifested. In quite a large percentage of cases bronchial hæmorrhages are dependent upon bronchial congestion, or a mal-condition of the blood and constitution, which is destined to terminate in consumption. It is a symptom which more frequently occurs in the first stage of the disease than in the second, and is therefore of diagnostic importance at a time when inferences and probabilities, more than structural changes, must be the guide in making a diagnosis.

Hence, when a patient complains of a decline in health, strength, and flesh, and informs us, besides, that he or she has had "lung fever," or "cold on the lungs," or a bronchitis, pleurisy, or pneumonia, or hæmorrhage, let us be apprehensive that these insidious foes have left a legacy of evil import.

In the early stage of consumption there is also suggestive change in the rate and quality of the pulse which is worthy of notice. Its characteristic feature is a rise of from ten to twenty beats, with low arterial pressure. As a rule, the degree of its rapidity in incipient consumption is in keeping with the severity of the disease, so that if we find a pulse averaging from ninety to one hundred or upward, we may infer rapid progress. With the increased

frequency in pulse ensues a significant elevation in temperature, giving rise to the fever which is considered inseparably associated with consumption. The fever is usually most marked in the latter part of the day or in the early evening, and is generally accompanied by a flush of the cheeks, hot and dry sensation of the hands and feet, and, in most instances, when it subsides there will appear more or less moisture of the skin, especially about the head and under the arms. The change in the pulse and temperature has a deep meaning, and should not be lightly estimated.

The physical signs which are appreciable during the first stage of consumption are, as a rule, negative or unsatisfactory. In fact, they are quite as often misleading as otherwise, because some place too much stress upon the importance of finding evidences of structural change. Some there are who, if they fail to find consolidation or an abundance of râles, fall into the error of attributing the cough and decline to some other cause, and therefore look lightly upon important tendencies and general symptoms. During the last three years I have seen several cases which were subjected to physical examination at the outset, and a diagnosis of "nothing but bronchitis" or "some little congestion" was given, when in reality there existed incipient consumption from which the patients died. When consumption is still in its first stage, we are able in some instances to detect by percussion some dullness at the apex, or over some circumscribed area of the chest, but quite as often the sounds are practically normal and of a misleading character. Of far more service are auscultatory signs, but these are highly variable, "being different in every case and variable in the same case." If, perchance, one is able to detect prolonged expiration, increased or exaggerated vocal resonance at the apex, or harsh respiration or tubular breathing in the same region, and more or less small mucous or subcrepitant râles,

enough has been found to aid very much in forming an accurate diagnosis. Let us not, however, depend too much upon the presence or absence of these well-known signs, but rather simply give them their due consideration in the ensemble of symptoms which the case presents.

Lastly, having considered the predisposition, and also the chief symptoms and signs presented by one thought to be in the first stage of consumption, confirmatory evidence of the greatest reliability can be obtained by a diligent use of the microscope. Since the distinguished Dr. Koch announced the discovery of a micro-organism, now known as "the tubercle bacillus," which he found to be present in cases of tuberculosis in man, monkeys, cattle, and other animals, we are enabled by a few microscopic examinations of the sputa to state almost absolutely whether or not a patient has consumption. The accuracy of his great discovery has been tested in every possible way and in different portions of the world, and now the revelations of the microscope, when managed by a competent examiner, are looked upon as being practically infallible. Besides being thus accurate in the highest degree, the physician is enabled by this method of investigation to obtain positive information whether or not a patient has tuberculosis, at a time when nearly all symptoms and signs are doubtful and unsatisfactory. In proof of this statement, let me say that the bacilli of tubercle have been found in the sputum of tuberculous patients at a time when expectoration followed simply a tickling in the throat, and when symptoms and physical signs were almost too slight to be appreciable. In an obscure case which came under my care last July, and which had been pronounced bronchitis, and so treated, bacilli were found in the sputum and the diagnosis was changed to consumption. Afterward a case of incipient consumption, so obscure that two good and regular physicians had diagnosticated it

"bronchitis," also came under my observation. In my investigations I submitted a specimen of the sputum for microscopic examination, and bacilli were found in great numbers. On the strength of the few general signs and symptoms present, and the revelations of the microscope, I changed the diagnosis to consumption. In verification of the accuracy of the microscopic examinations, I will say that both patients have since died of well-marked tuberculosis. Useful and indispensable as the microscope is in diagnosticating the diseases of the kidneys, I believe the time is to come when it will be of incomparably greater service to the physician by revealing to him the nature of the diseases of the lungs at a time when much can be done to counteract tuberculous disease if found to be present.

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